Bericht der 81. Jahresversammlung der SASEG vom 21. bis 23. Juni 2014 in Aosta (Italien)

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Bericht der 81. Jahresversammlung der SASEG vom 21. bis 23. Juni 2014 in Aosta (Italien)

Heinz M. Bürgisser[1]

Teilnehmer (91): Baumgartner, Walter; Béguelin, Karim (StN); Belgrano, Thomas (StN); Bolliger, Werner & Renate; Bollinger, Daniel; Boulicault, Lise (St); Brumbaugh, William & Michele; Burckhardt, Jenny; Bürgisser, Heinz & Trudy; Burri, Peter; Carmalt, Sam; Christe, Fabien (StN); Compagnoni, Roberto (E, R); De Loriol, Jean-Pierre & Mary; Do Couto, Damien (StN); Fankhauser, Kerstin (StN); Fischer, Andreas & Eva; Fomin, Ilya (StN) & Kozhina, Ekaterina; Franks, Sibylle; Frei, Walter; Glaus, Martin; Grossen, Viktor & Friederike; Guggiari, Orlando (StN); Gunzenhauser, Bernhard & Censier, Kathrin; Hansen, Wolfgang; Häring, Markus; Häusler, Mauro (St); Heckendorn, Werner; Heitzmann, Peter & Anni; Hemsted, Tim; Hynes, Pierre (StN); Kalbskopf, Reinhard (N); Kaufmann, Manuela (StN); Keller, Franz; Knup, Peter; Leu, Werner; Massaras, Dimitri & Schurtenberger, Heidi; Matter, Albert; Meier-Senn, Beat; Mermoud, Cédric (StN); Meylan, Benjamin; Minnig, Christian; Moscariello, Andrea & Mondino, Fiametta, with Camilla; Pittet, Céline; Pümpin, Volkmar & Anne; Scherer, Frank; Schmid, Stefan (E, R) & Jacobs, Inge; Schmidt, Thomas & Martina (Sp); Schwendener, Brigitte; Schwendener, Heinrich; Seemann, Ulrich; Siddiqi, Gunter (R); Stäuble, Albert & Tilda; Stäuble, Martin (R); Stenger, Bruno & Roux, Pauline, with Louis, Paul and François Stenger; Stumm, Fred & Margrit; Suana, Michael; Tangtuengtin, Pakorn (StN); Teumer, Peter & Renate; Trümpy, Daniel; Vimpere, Lucas (StN); Walter, Patric (St); Wicki, Antonia (StN); Wyss, Roland & Wyss-Böhni, Kristina; Zanoni, Giovanni (StN); Ziegler, Martin; Zürcher, Benjamin (StN); Zwaan, Frank (StN).
(E) Exkursionsleiter 22. und 23.6.; (R) Referent 21.6.; (St) Studentenmitglied; (StN) Neues Studentenmitglied; (N) Nichtmitglied (Gast); (Sp) Vertreter des Sponsors des Apéros

Samstag 21. Juni: Administrative und wissenschaftliche Sitzungen (Biblioteca Regionale), Partnerausflug, Apéro und Nachtessen (Restaurant Bataclan)

I Generalversammlung

(Protokollentwurf, zu genehmigen am 20. Juni 2015 an der GV in Baden)

Um 13:50 Uhr begrüsst Präsident Peter Burri die anwesenden Mitglieder im gut besetzten Konferenzsaal des Bibliothekgebäudes, einer ehemaligen Kirche, die nun jedoch komfortable Sitze aufweist. Er erklärt auf englisch, dass traditionsgetreu die Geschäfte der Vereinigung auf deutsch durchgenommen würden; da nun aber zahlreiche Neumitglieder nicht gut deutsch verständen, werde er seinen Jahresbericht auf englisch vortragen.
P. Burri preist kurz das Buch *«Swiss Gang» – Pioniere der Erdölexploration* an, das die Vereinigung in der Pause und am Ende des Nachmittags zum Verkauf anbieten wird.

[1] Vorstandsmitglied SASEG

1 Genehmigung des Protokolls der GV vom 22. Juni 2013 in Chamonix

Der Protokollentwurf der letztjährigen Versammlung, publiziert im Swiss Bulletin für angewandte Geologie (18/2, 2013, 95-99) wird diskussionslos genehmigt.

2 President's Report, June 2013 – June 2014

P. Burri started his report by showing the excellent development on membership:

Membership as of June 22, 2013	319
Personal members joining	+ 29
Resignations	- 12
Expulsions	- 5
Deaths	- 4
Membership as of June 21, 2014	327

The increase by 8 members contrasts with the decreases in the two previous years (-7, -8); main contributor is the higher joining rate (+ 80%, caused especially by more students joining), though there were also fewer resignations.
During a period of silence the assembly's thoughts went to the four members who died during the past 12 months:

- Carl Eduard Burckhardt (member for 60 years, died at age 99)
- Peter Lehner (member for 43 years)
- Heino Lübben (member for 17 years)
- Helmut Niko (member for 9 years)

The merits of Peter Lehner, VSP president preceding Peter Burri, get specially mentioned, as well as those of Heino Lübben, former CEO of BEB, and also of Charles Mercanton, who left the association shortly before his death.

Five members are honoured for their long membership: Fritz Burri and Edouard Lanterno for 65 years, Mrs. Greti Büchi (together with her deceased husband U. P. Büchi) and Peter Diebold for 60 years, and Martin Ziegler for 50 years. Martin Ziegler receives his commemorative membership certificate, signed by the President, personally from Peter Burri, whereas the others will receive it by mail, together with a personal cover letter.

Then P. Burri reviews the past year. SASEG experienced many positive developments: The Association has managed to be placed on the distribution list of all consultations of Switzerland's Federal Department of the Environment, Transport, Energy and Communications; SASEG was invited to give significant input to a positioning paper by the German Academy of Science on hydraulic fracturing for both hydrocarbons and geothermal energy and will also be the co-patron of a one-day symposium in Bern this October on the same topic, together with Swisstopo and the Swiss Academy of Science. SASEG has received 2-3 requests per month for lectures, papers and panel discussions, which causes the Committee to consider an increase in Committee members. There was much positive feedback on the symposium organised by SASEG and the University of Berne to honour Peter Lehner. Also the themed Bulletin issue (on climate change) received praise, both from supporters and critics. The only negative observation was that the AAPG Distinguished Lectures that SASEG organised in Geneva were attended only by people from the Geneva region, not from other parts of Switzerland.
P. Burri reiterates that SASEG has no political agenda; as per by-laws discussions are conducted on the basis of facts, not political beliefs. The Annual Convention will remain important, and although the Association is changing face, Convention attendance has been good, with more than 90 participants at the rather remote Aosta. P. Burri urges members to talk to earth scientists with an interest in energy issues to become members of the Association.
Finally, P. Burri reads the names of all 29 members that joined SASEG in the past 12 months, whereby each member present rises from his/her seat, to be seen by all members of the assembly.
There are no questions from members regarding the President's Report.

3 Bericht des Kassiers

Kassier W. Heckendorn charakterisiert die Finanzen der SASEG als gesund, was durch die mit einem Überschuss von Fr. 4'342 abgeschlossene Gewinn- und Verlustrechnung für 2013 demonstriert wird (Tab. 1):

Vermögen per 31.12.2012	94'730.05
Überschuss 2013	4'341.56
Vermögen per 01.01.2014	99'071.61

Der Überschuss erklärt sich vor allem aus viel tieferen Ausgaben für die Website gegenüber 2012 (als die Transformation von der

VSP zur SASEG durchgeführt wurde) und aus einem kleinen Überschuss der Tagung Chamonix (gegenüber einem Verlust der Tagung Luzern 2012). Das Konto zum Sponsern von Studenten enthielt zu Beginn von 2014 beinahe Fr. 6'000, wonach noch Honorare für Referate, die P. Burri im Namen der SASEG hielt, diesem Konto gutgeschrieben wurden. Mit Applaus wird W. Heckendorn's Arbeit verdankt.

4 Bericht des Redaktors

Bulletin-Redaktor D. Bollinger erinnert die Mitglieder an den Höhepunkt der letzten 12 Monate, das Erscheinen des 164-seitigen Themaheftes «Klimawandel», das ein exklusives Gespräch mit Prof. Thomas Stocker, Co-Vorsitzender der IPCC Working Group I des 5. Sachstandberichts, enthielt. Er informiert, dass Heft 19/2 ebenfalls ein Hauptthema haben werde, nämlich Fracking.
Im Weiteren zeigt D. Bollinger, dass der Mix der Bulletin-Artikel nur wenig gegenüber dem Vorjahr änderte (je ungefähr 25% über Energie & Klimawandel, geologisch-wissenschaftliche Artikel und über Naturgefahren, und 18% zu Ingenieurgeologie). Von der Anzahl Seiten der wissenschaftlichen Artikel in den letzten zwei Heften des Bulletins waren 49% durch die Autoren aus eigenem Antrieb eingereicht und 51% auf Anfrage des Vorstandes; dies ist ähnlich des vorhergegangenen Jahres.

5 Bericht der Revisoren

Revisor W. Frei liest den auch von Revisorin D. Decrouez unterzeichneten Bericht vor, der beantragt, dem Kassier Décharge zu erteilen. Mit Handmehr und Applaus wird die Décharge erteilt und damit die Rechnung 2013 genehmigt sowie Kassier W. Heckendorn entlastet.

6 Décharge des Vorstandes

Durch Handmehr erteilen die Mitglieder dem Vorstand Décharge und sprechen ihm damit ihr Vertrauen aus. Es standen keine Vorstandswahlen an.

7 Tagung 2015

Der Tagungsschwerpunkt Geologie der nuklearen Endlagerung bleibt unverändert, jedoch beschloss der Vorstand an der Sitzung am Morgen der GV, auf der Montag-Exkursion das Mont-Terri Felslabor bei St. Ursanne zu besuchen. Vize-Präsident B. Gunzenhauser erläutert dazu, dass deswegen der Tagungsort von Baden nach Westen verlegt werden wird (nach Aarau oder Solothurn). Die Exkursion am Sonntag, der Geologie des Jura im Querschnitt Brugg – Rhein gewidmet, bleibt unverändert.

8 Tagung 2016

Der Vorstand hat sich für eine Tagung im nördlichen Oberrheingraben entschieden (Tagungsort entweder Heidelberg oder eine kleinere Stadt in der Umgebung). Das vorliegende Konzept umfasst eine geologische Exkursion zum Kohlenwasserstoff-System des nördlichen Oberrheingrabens und eine Exkursion mit Besuchen von Energie-Produktionsstätten (mehrere Möglichkeiten sowohl für Öl/Gas als auch für Geothermie).

9 Varia

P. Burri erwähnt, dass die Firma Stump Foratec AG die Cocktails am Abend sponsert und auch ein gutes Honorar für P. Burris Referat beim Rotary Club in Zürich bezahlt hatte, das dem Studenten-Sponsoring zugute kam.
Vize-Präsident B. Gunzenhauser ergreift das Wort, um der Versammlung mitzuteilen, dass an der AAPG Annual Convention im

SASEG

Swiss Association of Energy Geoscientists
Schweizerische Vereinigung von Energie-Geowissenschaftern
Association suisse des géoscientifiques de l'énergie
Associazione svizzera geoscienzati dell'energia

Bilanz per 31. Dezember 2013

Aktiven	1000	Kasse	27.50	
	1010	Postscheckkonto	16'899.27	
	1022	ZKB Firmenkonto	16'341.22	
	1025	ZKB Depotkonto	70'000.00	
	1030	Eurokonto CHF (BRD)	1'207.60	
	1035	Verrechnungssteuer	211.07	
Passiven	2000	Vorausbezahlte Beiträge		100.00
	2020	Kreditoren		480.00
	2030	Vorausz. Jahrestagung 2013		-900.70
	2040	Sponsoring Studenten		5'935.75
	2300	Vermögen		94'730.05
		Gewinn 2013		4'341.56
		Total	104'686.66	104'686.66

Gewinn- und Verlustrechnung

Aufwand	3000	Bulletin	15'460.00	
	3010	Büromaterial	243.60	
	3020	Porti & Spesen	1'638.80	
	3030	Webseite SASEG	2'435.00	
	3040	Vorträge Spesen	3'319.30	
	3050	Steuern 2012	270.40	
		Gewinn 2013	4'341.56	
Ertrag	6000	Mitgliederbeiträge		26'595.15
	6040	Jahrestagung Chamonix		287.51
	6110	Wertberichtigung EURO		66.15
	6200	Zinsen		624.85
	6300	Spenden		135.00
		Total	27'708.66	27'708.66

Vermögen per 31. Dezember 2012	94'730.05
Gewinn 2013	4'341.56
Vermögen per 1. Januar 2014	99'071.61

Tab. 1: Bilanz SASEG per 31. Dezember 2013; Gewinn- und Verlustrechnung.

April P. Burri den Distinguished Service Award der AAPG erhalten habe. Grosser Applaus folgte auf diese Mitteilung.
V. Grossen fragt den Vorstand, wie die Verbindung der SASEG zu den eidgenössischen Räten sei. Er erwarte keine plötzliche Veränderung, aber würde die Vereinigung «politische Leute» aufnehmen? Wie kritisch sind wir bei der Aufnahme von neuen Mitgliedern? P. Burri repliziert, dass nur Geowissenschafter und Fachleute im Energiebereich aufgenommen werden. Da ein Einzelmitglied nicht für die SASEG spricht, ergäben sich Probleme höchstens bei den Vorstandsmitgliedern. Im Weiteren lehne die Redaktionskommission des Bulletins tendenziöse (z. B. polemische, mit politischen Zielen) und nicht wissenschaftlich fundierte Artikel ab. V. Grossen zeigt sich von den Antworten befriedigt, warnt jedoch in seinem Schlusswort vor Gruppierungen, die wissenschaftliche Vereinigungen desavouieren wollen.
Daraufhin wird die Generalversammlung um 14:40 Uhr geschlossen.

II Technical and Scientific Meeting

The Technical and Scientific Meeting that followed the General Assembly straight away were conducted in English. The presentations were the following:

- Prof. Dr. Roberto Compagnoni (Torino University): *High Pressure (HP) and Ultrahigh Pressure (UHP) metamorphism in continental crust and oceanic lithosphere («subduction metamorphism»).*
  The first part of this talk was to the many non-metamorphic geologists in the audience a welcome introduction / refresher to subduction and metamorphism at plate boundaries, whereby R. Compagnoni also showed the progress in the past 20 years in extending the petrology phase diagrams to greater pressures and temperatures. Then he zoomed in on minerals found in the Western Alps and the excursion area, which indicate specific fields of the phase diagrams (see p. 153 of this Bulletin for the extended abstract of this presentation).
- Prof. Dr. Stefan Schmid (Prof. em. Basel University and SASEG committee member): *Geodynamic aspects of high-pressure metamorphism; how do subducted rocks reach the earth's surface again?*
  Also this presentation was related to the excursions of our Annual Convention. S. Schmid presented, energetically and enthusiastically, different models published within the last 30 years on how exactly the formerly deeply subducted continental crust near the Africa-Europe plate boundary could have reached the surface again. Experts don't agree on the validity of a series of dynamic models (e.g. extension, extrusion and slab extraction), all of which have shortcomings or contradict actual observations also to be made in the wider excursion area.

- Dr. Gunter Siddiqi (Swiss Federal Office of Energy): *The role of Geo-Energies in Switzerland's Energy Strategy 2050.*
  G. Siddiqi described the Energy Strategy 2050, based on a scenario characterized by a major decrease in demand despite continued population and economic growth. The strategy rests largely on a massive improvement in energy efficiency, a much bigger share of renewable energy, imports and more research and development to enable the implementation of the strategy. He then focussed on the stimulation of the search for geothermal energy in Switzerland: the feed-in tariffs, the geothermal guarantee scheme, more funds for pilot and demonstration projects and more coordinated geothermal research and development. The discussion showed that some members are concerned about the envisaged decrease of energy demand in Switzerland driven by efficiency targets and more regulation.

- Dr. Martin Stäuble (MD Shell China und Vice President Shell China EP): *China Unconventionals.*
  The pursuit of unconventionals is driven by China's huge predicted increase of energy demand. M. Stäuble characterized China's numerous basins as having (1) generally complex geological histories and therefore complicated structures, (2) lacustrine shales as the source for unconventional oil and gas, and (3) a regulatory framework for exploration based on a very supportive government. He then presented the many issues during the initial years of Shell's operations in the densely populated Sichuan Basin (see p. 69-74 of this Bulletin for the extended abstract of this presentation). Also here the discussion time was fully used.

- Dr. Bernhard Gunzenhauser (SASEG Vice-President): Logistic details of the further convention programme.
  The meeting closed at 6 p.m., leaving sufficient time to get ready for the cocktail reception and dinner.

III Partners' Programme: Guided tour of Aosta

Whilst members convened for the General Assembly, nineteen partners of members explored on foot, with a German- and an English-speaking guide, the many architectural jewels of Aosta's more than 2.000 years of history: the Town Hall (Hôtel de Ville) in neoclassical style, completed in 1841; the collegiate church of Saint Orso and its Romanesque cloister; the eastern entrance to the town during Roman times, the Porta Praetoria; the Roman theatre with its back wall rising to the impressive height of 22 m; and the cryptoporticus, part of the market of the Romans, situated today partly underneath the town's cathedral. Many of the city centre's streets through which the SASEG partners walked on their guided tour go back to the initial layout of the town by the Romans.

IV Evening

Convention participants gathered under the arcade of Bataclan restaurant, near the Arch of Augustus, the perfect location for established and new SASEG members and their partners to meet and to enjoy the cocktails sponsored by Stump Foratec AG (Fig. 1/1).
President Peter Burri welcomed all in the traditional short address (Fig. 1/2), in which he first warmly welcomed partners; through their presence the SASEG Annual Convention distinguishes itself from conventions of other Swiss earth science associations. He then talked passionately about the distortion of scientific facts in the present European campaign against shale gas and hydraulic fracturing, pointing out that no scientific organisation in Europe supports a ban of fracturing. He pleaded to members to be, as scientists, ambassadors (not lobbyists) for a scientifically correct discussion of our energy options. Finally P. Burri touched on the history of the Aosta valley and on its inhabitants who have kept the French language and their autonomy much alive; he compared their single-minded character to those of geologists.
The subsequent dinner was served in the open air in the back garden of the restaurant, whereby participants not only enjoyed excellent food, but also the views of the mountains surrounding the venue (see Fig. 1/2), with the sun slowly setting.

Excursions

Both Sunday and Monday excursions belonged to the same theme and were led by Prof. Dr. R. Compagnoni and Prof. (em.) Dr. S. Schmid (SASEG board member). An excellent 17-page excursion handout with numerous colour illustrations of maps, cross-sec-

tions, outcrops and thin-sections was printed free of charge for each participant by Proseis AG. This handout has been the source for most of the descriptions and interpretations below.

Sunday 22nd June: Sesia Zone and internal part of the Piemonte-Liguria Zone (Lower Valle d'Aosta, northwest of Ivrea)

At 8 a.m. 87 participants climbed in Aosta into three coaches. In a beautiful morning light we made our way downvalley towards Ivrea, on the motorway.

Quincinetto: We reached the «outcrops», which were large fallen blocks, by an easy yet invigorating morning walk along a minor road on the valley floor. Here Roberto Compagnoni introduced the Sesia Zone, its tectonic setting and its metamorphism (Figs. 1/3, 1/4) before explaining the actual rocks seen at this spot of the Eclogitic Micaschist Complex of the Sesia Zone: continental-crust sediments of a large block that rifted off the Adria plate in Jurassic times and became subducted underneath the Southern Alps in late Cretaceous time. Minerals indicate P-T conditions of 15–20 kbar at 550–600 °C (eclogite metamorphic facies, high pressure/relatively low temperature), suggesting subduction of this continental crust to 50–70 km depth. As co-leader Stefan Schmid emphasized, the rocks themselves were not eclogites; we observed phengite micaschists with garnets and other metasediments in eclogite facies.

Montestrutto: About 50 participants hiked 150 m up to a glacially polished terrace above the village (Fig. 1/5), whilst the others walked to a rock-climbing park at the foot of the cliffs where similar lithologies were visible. Also these rocks belong to the Eclogitic Micaschist Complex of the Sesia Zone; paraschists dominate the outcrop, with a few layers of leucocratic orthogneiss containing roundish jadeite megablasts several cm across (Fig. 1/6). Jadeite, a rare mineral ($NaAlSi_2O_6$) of the pyroxene family, forms when albite ($NaAlSi_3O_8$) of a granitoid rock breaks down to form jadeite + quartz at high pressures and relatively low temperatures.

Donnas: This outcrop contains a spectacular feature of the Roman era: A 221 m long exposure of the Roman consular road from Ivrea to Aosta and the Gallic provinces (modern-day France), with furrows and an impressive arch (Fig. 1/7). The road was cut into rocks typical of the northernmost (most external) part of the Eclogitic Micaschist Complex of the Sesia Zone. These rocks have Early Tertiary pervasive greenschist-facies metamorphism that overprints the earlier eclogite facies mineral assemblages. Visible evidence of this overprint are garnet relics preserved at the core of iron-rich chlorite masses, the outline of which indicated they were pseudomorphs after garnet porphyroblasts. Soon afterwards we enjoyed, on three long tables, a five-course lunch with local flavour at La Kiuva restaurant in Arnad (Fig. 1/8).

Hillock west of the Clapey house: In the shade near the isolated house, Roberto Compagnoni introduced the setting of the Piemonte-Liguria Zone, representing the spreading ocean north of the Sesia Zone (Penninic Domain). Then we scrambled to the top of the hillock (Fig. 2/9), a «roche moutonnée» shaped in the Quaternary by the Valle d'Aosta glacier. Glacial evidence included striations and an erratic boulder of a porphyritic granite from the Mont Blanc massif, resting on the polished surface and aligned in the direction of the former ice flow. A lot of observations could be made on the well-exposed bedrock itself, a foliated antigorite-bearing serpentinite, i.e. a high-pressure metamorphic ultramafic rock. Perhaps most spectacular were veins of rodingite, which were folded and boudinaged, with the yellowish rodingite being preserved only in the central parts of the largest boudins. Rodingite is the product of metasomatism altering an original basaltic dyke, which intruded a peridotite and formed during the

serpentinization at the ocean floor. This outcrop led to a discussion initiated by Stefan Schmid (Fig. 2/10) on the initial definition of ophiolites by the Penrose Conference, which was guided by outcrops on Cyprus, where sheeted dyke complexes are common. However, the latter are missing in Alpine ophiolites.

At 5:30 p.m. the coaches brought us back to Aosta, where the participants had time to further explore the town and enjoy in small groups dinner in one of the many restaurants.

Monday 23rd June: Geotraverse across the major tectonic units exposed in the upper Valle d'Aosta (between Aosta and Courmayeur)

At 8 a.m. 59 participants left Aosta in three small coaches and five private cars. The six stops, of which the first four were on the north-eastern slope of the upper Valle d'Aosta, were spaced out at relatively short distances.

St. Pierre castle: This beautiful outcrop was just underneath the castle, along the track to the church. It comprised calcareous schistes lustrées with a layer of the white hornblende, tremolite. The outcrop belongs to the Combin Zone of the Piemonte-Liguria Zone, which is the part of the Piemonte-Liguria Zone that did not reach the eclogite metamorphic facies, in contrast to yesterday's last outcrop which represented the internal part of the Piemonte-Liguria Zone that did reach eclogite metamorphic facies.

Outcrop near the road to S. Nicolas: This small outcrop, also in the Combin Zone, comprised a fine-grained meta-basaltic rock with the greenschist facies mineral assemblage actinolite-chlorite-epidote-albite (prasinite), overprinting earlier blueschist facies parageneses. Excursion leader Stefan Schmid explained that these were intercalated within the schistes lustrées metasediments and discussed a mafic dyke vs. basaltic pillow lava origin of these rocks.

Viewing terrace in front of St. Nicolas church: At this panorama stop we overlooked the entire southern flank of the upper Valle d'Aosta, including the Gran Paradiso Massif. First Stefan Schmid demonstrated the 1937 Carta geologica Alpi Nord-Occidentale by F. W. Hermann, the most beautiful geological map of the area (Figs. 2/11, 2/12). Then he embarked on explaining the paradox of the schistosity dipping to the foreland, which Stefan Bucher, a student of Stefan Schmid, found to have been caused by re-folding of nappes at a large scale during the Oligocene. This re-folding was preceded by subduction (to blueschist metamorphism) at 50–43 Ma and by subsequent exhumation. Blown-ups of the guidebook illustrations helped explaining the complex geological history of the area.

Roadside outcrop SE of village of Cérellaz (Figs. 2/13, 2/14): Crenulation and tight folding in the gneisses of the Nappe du Ruitor. This gneiss belongs palaeogeographically to the Briançonnais basement and tectonically is part of the Grand S. Bernard nappe system.

Cascata di Lenteney: We parked off the main road at the valley bottom and walked up a trail to a bridge just below the spectacular Lenteney cascades, produced by a stream from a hanging valley. The geological interest in this stop was a small outcrop of Zone Houillère rocks: metamorphosed pebbly sandstones in which elongated quartz pebbles manifest the intense deformation. The Zone Houillère represents the fill of Permo-Carboniferous troughs within the Briançonnais basement; (Alpine) metamorphism is lowermost greenschist facies.

Morgex, outcrops within vineyards off rue des Condemines (Fig. 2/15): These impure carbonates belong to yet another palaeogeographic unit, the Valais trough. Stefan Schmid explained the development of this palaeographic element that straddles the northern parts of the Western Alps in Valais and Savoy. The small outcrops featured sandy limestones and dolomites of the Couches de

l'Aroley, deposited above an unconformity interpreted as the break-up unconformity, formed after rifting of the passive continental margin of the Briançonnais facing the Valais Ocean. The Couches de l'Aroley represent therefore the earliest part of the post-rift phase (Barremian-Aptian) of the Valaisan Unit.

We continued driving towards Courmayeur, where we took the steep and winding road up to the Val Vény. Along the road we observed strongly deformed schistose limestones that are part of the root zone of the Helvetic nappes and the Chaînes Subalpines. Later we had good views onto a lateral moraine with large erratic blocks. Shortly before 1 p.m. we reached Restaurant Petit Montblanc, at an elevation of 1.500 m a.s.l. (Fig. 2/16). Before the five-course lunch was served, P. Burri thanked organizers and excursion leaders for a very successful Convention, and the participants for the good attendance. Before 3 p.m. we hurried back into the coaches in order to reach Aosta in time, to allow some participants to catch the last postal coach to Martigny in Switzerland.

Acknowledgments

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Fig. 1: Selected photographs of the 2014 SASEG Convention in Aosta. [1-2] 21st June, Restaurant Bataclan, Aosta. 1] SASEG treasurer Werner Heckendorn (centre) and Prof. Dr. Andrea Moscariello of the University of Geneva (right) with six of his students, all of them new members sponsored by SASEG for the Convention, raise the glass at the cocktail reception (Photo: H. M. Bürgisser); 2] President Peter Burri welcomes all in the traditional short address (Photo: B. Gunzenhauser); [3-8] 22nd June, excursion Sesia Zone. 3] Prof. Dr. Roberto Compagnoni introduces the Sesia Zone geology ... (Photo: I. Fomin); 4] ... to an attentive audience (Photo: H. M. Bürgisser); 5] Stop 2, high above the vineyards of the village of Montestrutto; ... 6] ... featured jadeite in an orthogneiss dyke within the paraschists (both photos: H. M. Bürgisser); 7] Roman consular road with furrows and an impressive arch (Photo: I. Fomin); 8] Lunch at La Kiuva restaurant (Photo: W. Heckendorn).



Fig. 2: Selected photographs of the 2014 SASEG Convention in Aosta. [9-10] 22nd June, afternoon: Hillock near Clapey house, Piemonte-Liguria Zone. 9] Roche moutonnée outcrop; Montjovet Castle in background (Photo: H. M. Bürgisser); 10] Prof. Dr. Stefan Schmid explains the complex history of this Zone (Photo: W. Heckendorn). [11-16] 23rd June, excursion Geotraverse Upper Valle d'Aosta. 11] On the terrace of the church of S. Nicolas, S. Schmid presents the 1937 map of the area ... (Photo: F. Stumm); 12] ... which everyone admires (Photo: B. Gunzenhauser); 13/14] Participants align at the roadside near Cérellaz to listen to S. Schmid's explanation of the Ruitor gneiss (Photos: B. Gunzenhauser); 15] A walk through vineyards was required to reach the Couches de l'Aroley outcrop outside Morgex (Photo: H. M. Bürgisser); 16] Lively discussions at lunch at restaurant Petit Mont Blanc in Val Vény (1.500 m a.s.l.), where the convention ended (Photo: B. Gunzenhauser).